



STATE OF MAINE
DEPARTMENT OF CONSERVATION
MAINE FOREST SERVICE
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04333-0168

PAUL R. LEPAGE
GOVERNOR

WILLIAM H. BEARDSLEY
COMMISSIONER

<http://www.maine.gov/doc/mfs/idmhome.htm>

Forest & Shade Tree - Insect & Disease Conditions for Maine July 18, 2011

Helping Hands and Nimble Minds

Two Margaret Chase Smith Government Interns have joined our staff for the summer. By the time the next report is out, their time here will be nearly done. We expect to keep them busy in the interim! Natalie Marceau and Kaileigh Sweeney are valued extra hands and minds in a busy season. Both are seniors at the University of Maine in Orono, and both hope to find rewarding work in the Maine outdoors following graduation.

Natalie will be graduating in the spring with a BS degree in biology and chemistry minor. She enjoys many different aspects of biology. She grew up on a working farm in Searsmont where she raised and showed dairy cattle in 4-H for several years. Kaileigh will be graduating this December from the University of Maine with a BS degree in Parks, Recreation & Tourism and Psychology minor. She is originally from the coastal town of Scituate, MA.

New Normals

Rainfall and temperature are often reported as being above or below normal when discussing the insect and disease conditions in these reports. That benchmark changed this month when NOAA's National Climatic Data Center released its latest dataset on climate normals. More information can be found on the NOAA website:

<http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html>.

Insects

Elongate Hemlock Scale (*Fiorinia externa*) – Elongate hemlock scale has been detected by homeowners and arborists on planted hemlock and fir in seven towns in southern Maine. In an effort to contain the pest at those sites, the Maine Forest Service contracted for chemical control on infested and adjacent hosts. Controls were applied in June and the sites will be monitored for further signs of the insect.

MAINE FOREST SERVICE
DOUG DENICO, DIRECTOR

PHONE: (207) 287-2431 OR 1-800-367-0223
FAX: (207) 287-2432
www.maineforestservice.gov/idmhome.htm

We help you make informed decisions about Maine's forests

The Maine Department of Agriculture has funded the printing of wallet cards to help with identification of elongate hemlock scale and hemlock woolly adelgid (<http://maineforestservice.gov/documents/hwa-ehsweb.pdf>). The cards are not yet in, but if you are interested in receiving one (or more) when they come in, send your request to allison.m.kanoti@maine.gov or call (207) 287-3147.

***Fall Webworm** (*Hyphantria cunea*) – Although this insect causes an unsightly mess they do no lasting damage to the trees. Same drill as in past years: look for loose tents containing tiny, grayish, fuzzy caterpillars on alder, apple, ash, beech, birch, cherry, elm and oak. Clip and destroy these small developing tents to help reduce the problem locally.

In small trees, remove tents by hand, or cut out and destroy them. A forked stick or a stick with a nail in it may be inserted into larger webs and twisted off from the tree. If pesticides are used, thoroughly spray the webs and caterpillars using *Bacillus thuringiensis* (Bt) a microbial product. Carbaryl, acephate or other chemical registered for fall webworm may also be used. Treat as soon as the small webs and caterpillars are seen, which should be any time now.

Hemlock Woolly Adelgid (*Adelges tsugae*) – New detections of hemlock woolly adelgid have slowed considerably. Although a large proportion of coastal towns from Bristol west have had detections, most of those detections are south of Route 1. The Maine Forest Service is looking for areas with concentrations of hemlocks within 5-10 miles of the coast east of Owl's Head. These areas would be candidate sites for MFS staff to complete surveys for hemlock woolly adelgid and elongate hemlock scale in the future. Road-side surveys are planned to maximize area covered; this was a successful tactic last summer. Candidate sites can be reported to allison.m.kanoti@maine.gov or (207) 287-3147.

Hickory Tussock Moth (*Lophocampa caryae*) – Light traps from Calais to Shirley and south have been picking up hickory tussock moths in higher numbers than have been seen in years. This indicates that we will be seeing more of the caterpillars although they rarely cause any significant amount of defoliation. The medium sized moths are tan with white spots on their forewings. The moths lay clusters of eggs on the leaves of hardwoods with a preference for nut trees. Butternut, hickory, birch, ash, willow, elm, black locust, basswood and quaking aspen are all on the host list.

The larvae are gregarious, skeletonizing leaves and leaving the veins behind. When the larvae mature they begin to wander in search of overwintering sites. They spend the winter in fuzzy grey cocoons on the ground. These hairy white and black caterpillars can cause an itchy rash for those unfortunate enough to come in close contact with them.

To read more about the natural history of Hickory Tussocks go to:
<http://www4.uwm.edu/fieldstation/naturalhistory/bugoftheweek/hickory-tussock-moth.cfm>

Yellowheaded Spruce Sawfly (*Pikonema alaskensis*) – The striped larvae of the yellowheaded spruce sawfly are finishing up feeding now. This insect starts feeding on new foliage in mid to late June but most people do not notice them until mid July when the damage to the trees is almost finished. Although the larvae are out eating needles for 4-6 weeks most of the feeding is done in the last week and seems to occur over night. The larvae prefer to feed at the top of the trees and then move down staying on new foliage if possible. The sawflies will return to the same trees year after year. So if you see damage this year put it on your calendar to go check the trees next year at the end of June. These are native insects and there are a lot of predators and

parasites that feed on them. The natural controls will eventually reduce the sawfly population but not always as quickly as people would like to see. Nevertheless, if you are just now noticing the sawfly damage, WAIT until next year before treating and then treat in late June or early July when the larvae are small.

Diseases and Injuries

Balsam Fir Rusts (*multiple genera and species*)

Fir Broom Rust (*Melampsorella caryophyllacearum*) – Fir broom rust is a common disease of balsam fir throughout Maine, but generally affects only low numbers of trees in any one location. The disease almost never results in tree mortality, but it can be a significant nuisance in Christmas tree plantations. The “brooms” are proliferations of bud and shoot tissue that originates from a single branch infection. The brooms generally grow slowly, sometimes attaining great size after decades of infection. During May, spores of the pathogen are produced on the needles contained in the brooms. The brooms will appear yellow from the spores, and also from the chlorosis of the affected needles. Spores produced on the fir needles can infect chickweed (*Stellaria* spp.) and mouse-eared chickweed (*Cerastium* spp.), and do not re-infect balsam fir. Pruning and removal of the infected branches is the simplest method for managing the disease whenever it is observed. Controlling chickweed vegetation would be effective, but is usually impractical.

Fir-Fern Rusts (*Uredinopsis* spp. and *Milesina* spp., and others) - At least six genera, including at least fourteen species of rust fungi alternate their life cycle between balsam fir and one of several fern species. The aecial spore stage of all fir-fern rust pathogens appear on the underside of fir host needles as rows of white columns, each about .5 to 1 mm in height. The aecia are present in late spring through mid-summer. Infected needles will appear yellow-green to yellow, and will eventually turn brown before being shed prematurely. Fir-fern rusts occasionally can cause damage to balsam fir Christmas tree plantations, but can be easily managed by removal of all nearby (within at least 50 feet) fern hosts with early-season and regular mowing or with herbicides. Plantations should be checked now for needle infections, and for planning fern removal to prevent or reduce damage in future years.

Fir-Fireweed Rust (*Pucciniastrum epilobii*): The aecial stage of this disease can be found now on the undersides of infected current-season balsam fir needles. Several other species of *Abies* are also susceptible. The aecia develop by mid-summer, and appear as white, circular tubes that extend about 1 mm in height from the undersurface of the needles. The aecia commonly form two lines along the rows of stomata. Infected needles become chlorotic, and sometimes curl. Infected needles will brown and be shed prematurely later in the year. The spores produced by the aecia can infect fireweed (*Chamerion angustifolium* [= *Epilobium angustifolium*]), a common and showy herbaceous species that develops in open fields, along roadsides, and in recently harvested or clear-cut forest areas throughout Maine. The disease is known to cause moderate to severe damage on occasion, especially in regenerating stands of fir where dense stands of fireweed also coexist. Christmas tree growers can manage the disease with prudent mowing of the fireweed host early in the season. Large infestations of fireweed in Christmas tree plantations can also be managed using herbicides.

Leaf Blight of Northern White-Cedar (Arborvitae) (*Didymascella thujina* [= *Keithia thujina*])

– Two samples of cedar leaf blight were received at the Lab recently. One sample was from Scarborough (Cumberland Co.) and one was from Kennebunk (York Co). Cedar leaf blight is a well-known disease of western red-cedar (*Thuja plicata*) in the western United States and

Canada. It has also been reported previously from a few eastern U.S. states, including Maine, on northern white-cedar (*Thuja occidentalis*). Although the disease can occur on trees of any age or size, most damage has been reported on young seedlings and saplings. Damage is most severe where dense shading and high foliage moisture levels occur. Symptoms first appear as light-brown areas on the individual scale-like leaves. The fruiting bodies (apothecia) of the fungus appear in June on the upper surface of infected needles. The apothecia rupture through the needle epidermis, which often stays attached to the needle. Heavily-infected needles and twigs are shed later in the fall. Application of fungicides to manage the disease is rarely necessary. A copper fungicide (Bordeaux Mix) or mancozeb (Dithane) should be effective if applied early in the season, when susceptible foliage is developing.

Herbicide for Turf Harmful to Conifers – Imprelis Herbicide from DuPont (EPA # 352-793)

There is strong concern that a recently-approved herbicide used for lawn weed management may be causing excessive damage and mortality to conifers within and near treated areas. Situations where conifers are exhibiting symptoms of chlorosis, needle-browning, or defoliation where turf or lawn areas have been treated with Imprelis herbicide should be reported. Additional information and photos of damage can be viewed on this Penn State Website:

<http://extension.psu.edu/greenindustry/qiec/news/2011/some-observations-on-imprelis-injury-to-trees>.

According to DuPont, they have received to date 355 complaints reporting damage to approximately 5,000 to 6,000 sites. Complaints have been received from a total of 22 states. DuPont has assembled a team of experts to investigate each complaint and will review the collected data for any trends. DuPont plans on submitting adverse effects data to the U.S. Environmental Protection Agency by the end of the month and will work with EPA on revising the label, as needed.

***Sirococcus* Tip Blight on Eastern Larch** (*Sirococcus conigenus*) - Several samples of branch tip dieback have been observed on eastern larch (*Larix laricina*) in central Maine. Some of the samples were collected in the area designated as a quarantine zone for larch canker disease (caused by fungus *Lachnellula willkommii*), and some have been found outside the quarantine area. Although infections of young branch tips by the larch canker pathogen can result in identical symptoms, additional work is needed and will be conducted this summer to identify the cause of this dieback. *Sirococcus conigenus*, a common pathogen of hard pines in Maine, has been reported to cause similar symptoms, and may in fact be the pathogen involved in these cases. To date, fruiting structures of either *Sirococcus conigenus* or of *Lachnellula willkommii* have not been positively identified from the suspect material.

White Pine Needle Casts (*Bifusella linearis*, *Canavirgella banfieldii*, and *Mycosphaerella dearnessii*) – The premature needle fall in white pines caused by these pathogens has now largely ceased. Heavily-infected trees may now appear thin in crown foliage, but many trees moderately- to lightly-infected may appear near normal. Evaluation of the statewide conditions indicate that the disease, while widespread and damaging in some localized areas, was not as severe as it was in 2010.